WELL CONSTRUCTION PERMIT

for

Kihei-Unocal Monitor Wells
Well Nos. 4427-01M to 03M
Kihei, Maui

TO: Unocal Marketing & Refining
P.O. Box 659
Honolulu, HI 96807

In accordance with Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct three monitor wells (Well Nos. 4427-01M to 03M) in the vicinity of Maui Petroleum, Hobron Lane, TMK: 3-7-11:21, is approved, subject to the following conditions:

1. The Commission on Water Resource Management Staff (Commission staff), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, before any work by this permit commences.

2. The wells shall be used for ground water quality monitoring, sampling, and testing only.

3. The following shall be submitted to the Commission staff within 30 days after completion of the wells:
   a. Well Completion Reports.
   b. As-built sectional drawings of the wells.
   c. Plot plan and map showing the exact locations of the wells.
   d. Periodic reports of monitoring and testing results.

4. The applicant shall comply with all applicable laws, rules, and ordinances.
5. This permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work shall be completed within two years of the date of issuance.

6. Upon completion of monitoring operations, the applicant shall obtain a well construction permit to seal the wells with cement grout in a manner approved by the Commission.

WILLIAM W. PATY, Chairperson
Commission on Water Resource Management

JUL 20 1992
Date of Issuance

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: [Signature]
Date: 7/27/92

Printed Name: [Name]

Firm or Title: [Company]

Please sign and return one copy of this permit to the Commission staff and retain a copy for your record.

Enc. (Well Completion Report form)
c: USGS
   Department of Health
   Safe Drinking Water Branch
   Solid and Hazardous Waste Branch
   Ground Water Protection Program
   Maui Department of Water Supply
   Dames & Moore
Mapped, edited, and published by the Geological Survey
Revised in cooperation with Hawaii Dept. of Transportation
Control by USGS and NOS/NOAA
Topography by photogrammetric methods from aerial photographs
taken 1950. Field checked 1954. Revised from aerial photographs
Selected hydrographic data compiled from NOS/NOAA charts 4116
and 4130. This information is not intended for navigational purposes
Projection and 10,000-foot grid ticks: Hawaii coordinate system,
zone 2 (transverse Mercator) Clarke spheroid 1866. Old Hawaiian Datum
1000-Meter Universal Transverse Mercator grid ticks, zone 4, shown
in blue. International spheroid. To place on the predicted North
American Datum 1983 move the the projection lines 356 meters north and
292 meters west as shown by dashed corner ticks

From U.S. Geological Survey map,
Scale 1:24,000,
Pu'olii, Kali, Hawaii
1983
APPLICATION FOR

WELL CONSTRUCTION PERMIT

PUMP INSTALLATION PERMIT

INSTRUCTIONS: Please print or type and send completed application with attachments to the Division of Water and Land Development, P.O. Box 373, Honolulu, Hawaii 96808. Application must be accompanied by a non-refundable filing fee of $15.00 145-7142, Hydrology/Certify Section for assistance.

1. WELL LOCATION/NAME: M-50
   Island: Maui
   Tax Map Key: 3-7-011-021
   Address: Maui Petroleum, Kahului, Maui, Hawaii
   (Attach a USGS map (scale 1"=2000') and property tax map showing well location referenced to established property boundaries.)

2. WELL OWNER
   Firm Name: Unocal Marketing Refining
   Contact Person: Bruce Huddleston
   Address: P.O. Box 659
   Honolulu, HI 96817
   Phone: 522-7145

   LANDOWNER
   Firm Name: A and B Properties
   Contact Person:
   Address: 33 Lono Avenue, Suite 400
   Kahului, Maui, HI 96732
   Phone: 877-5523

3. PROPOSED CONTRACTOR FOR: Well Drilling: Pump Installation
   Name: PR Drilling Company, Inc.
   Address: 235 Keeaumoku Street
   Wahiawa, HI 96786
   Phone: 622-2631
   Contractor's License No.: C-9637

4. PROPOSED WORK
   - Drill New Well
   - Deepen
   - Alter
   - Install New Pump
   - Replace Pump
   - Redrill
   - Seal
   - Abandon
   - Modify Pump
   (Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE
   - Municipal (including hotels, stores, etc.)
   - Domestic (individual, noncommercial water systems)
   - Irrigation (specify)
   - Industrial
   - Military
   - Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL _______ gallons per day

7. PROPOSED PUMP INFORMATION N/A
   - Pump Type: Vertical Turbine
   - Submersible
   - Centrifugal
   - Motor: Diesel
   - Gas
   - Electric: Rated Horsepower
   - Rated Pump Capacity _______ gallons per minute (gpm)

Well Owner (print) ____________________________ Landowner (print) ____________________________
Signature ____________________________ Signature ____________________________
Date ____________________________ Date ____________________________

For Official Use Only:
Field Checked By ____________________________ Latitude ____________ Hydrologic Unit
Date ____________________________ Longitude ____________ State Well No. 6-4427-0116-03

Kihel-Uncal
Briefly describe the proposed work:

The boring for well installation will be drilled with a truck-mounted drill rig equipped with 4-inch helix stem auger. The well will be installed into the boring as described below.

PROPOSED SECTION OF WELL

Elevation at top of casing
10 ft., msl.

Ground Elev. 10 ft., msl*

Cement Grout — ft.

Bentonite seal 4 ft.

Hole Dia. 10 in.

Total Depth 12 ft.

Rock Packing 11 ft. (Silica sand)

Solid Casing:
Material PVC
Length 2 ft.
Diameter 4 in.
Wall thickness Schedule 40 in.

Casing: / /Perforated /w Screen
Material PVC
Length 10 ft.
Diameter 4 in.
Wall thickness Schedule 40 in.
Openings 0.0010 sq. in./L.F.

Open Hole: N/A
Length
Diameter in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
Locations of wells MW-50, MW-51, and MW-52
Maui Petroleum
Kahului, Maui, Hawaii

Legend:
- Exploratory Soil Boring
- PVC Monitoring Well
- Recovery Pit
- Exploratory Test Pit (FP) (backfilled)
- Approx. Locations of new wells (marked with paint)
WELL CONSTRUCTION PERMIT

PUMP INSTALLATION PERMIT

INSTRUCTIONS: Please print or type and send completed application with attachments to the Division of Water Resource Management, Department of Land and Natural Resources, State of Hawaii, 1177 street, Honolulu, HI 96814. Application must be accompanied by a non-refundable filing fee of $25.00 (O.00 $50.00) Hydrology/Geology Section for assistance.

1. WELL LOCATION/NAME

Island: Maui
Tax Map Key: 3-7-011-021
Address: Maui Petroleum, Hanae, Kahului, Maui, Hawaii
(Attach a USGS map (scale 1"=2000') and property tax map showing well location referenced to established property boundaries.)

2. WELL OWNER

Firm Name: Unusal Marketing & Trading
Contact Person: Bruce Huddleston
Address: P.O. Box 159
Honolulu, HI 96807
Phone: 522-7167

3. PROPOSED CONTRACTOR FOR: □ Well Drilling □ Pump Installation

Name: PR Drilling Company, Inc.
Address: 235 Kalia Street
Wahiawa, HI 96786
Phone: 622-2631
Contractor's License No.: C 9637

4. PROPOSED WORK

[ ] Drill New Well
[ ] Deepen
[ ] Alter
[ ] Seal
[ ] Install New Pump
[ ] Replace Pump
[ ] Redrill
[ ] Abandon
[ ] Modify Pump

(Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE

[ ] Municipal (including hotels, stores, etc.)
[ ] Domestic (individual, noncommercial water systems)
[ ] Irrigation (specify)
[ ] Military
[ ] Industrial
[ ] Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL: __________ gallons per day

7. PROPOSED PUMP INFORMATION

Pump Type: □ Vertical Turbine
[ ] Submersible
[ ] Centrifugal
Motor: □ Diesel
[ ] Gas
[ ] Electric
Rated Pump Capacity: __________ gallons per minute (gpm)
Rated Horsepower: __________

Well Owner (print)_________ Signature_________ Date_________
Landowner (print)_________ Signature_________ Date_________

For Official Use Only:
Field Checked By_________ Latitude_________ Hydrologic Unit_________
Date_________ Longitude_________ State Well No._________
Briefly describe the proposed work:

The boring for well installation will be drilled with a truck-mounted drill rig equipped with 4-inch hollow stem auger. The well will be installed into the boring as described below.

### PROPOSED SECTION OF WELL

**Elevation at top of casing**

- 10 ft., msl.

**Ground Elev.**

- 10 ft., msl*

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**Cement**

- ft.

**Grout**

- ft.

**Bentonite seal**

- 1 ft.

**Hole Dia.**

- 10 in.

**Total Depth**

- 12 ft.

**Rock Packing**

- 11 ft.

(silica sand)

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**Solid Casing:**

- Material: PVC
- Length: 2 ft.
- Diameter: 4 in.
- Wall thickness: Schedule 40 in.

**Casing:**  

- Perforated
- Screen

Material: PVC
- Length: 10 ft.
- Diameter: 4 in.
- Wall thickness: Schedule 40 in.
- Openings: 0.020 in. sq. in./L.F.

**Open Hole:**

- N/A
- Length
- Diameter

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*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.*
Locations of wells HW-50, HW-51, and HW-52
Maui Petroleum
Kahului, Maui, Hawaii

Legend:
- Exploratory Soil Boring
- PVC Monitoring Well
- Recovery Pit
- Exploratory Test Pit (TP) (backfilled)
- Approximate
- Locations of new wells (marked with paint)
APPLICATION FOR

WELL CONSTRUCTION PERMIT

PUMP INSTALLATION PERMIT

INSTRUCTIONS: Please print or type and send completed application with attachments to the Division of Water and Land Development, P.O. Box 372, Honolulu, Hawaii 96809. Application must be accompanied by a non-refundable filing fee of $13.00 payable to the Department of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 548-1542, Hydrology/Geology Section for assistance.

1. WELL LOCATION/NAME: HW-52
   Island: Maui
   Tax Map Key: 3-7-011-024
   Address: Maui Petroleum, Hulanai Drive, Kahului, Maui, Hawaii
   (Attach a USGS map (scale 1"=2000') and property tax map showing well location referenced to established property boundaries.)

2. WELL OWNER
   Firm Name: Unocal Marketing & Refining
   Contact Person: Bruce Huddleston
   Address: P.O. Box 659
             Honolulu, HI 96807
   Phone: 522-7157
   Landowner: A and B Properties
   Contact Person:
   Address: 33 Lane Avenue, Suite 400
             Kahului, Maui, HI 96732
   Phone: 877-5523

3. PROPOSED CONTRACTOR FOR:
   Well Drilling
   Pump Installation
   Name: PR Drilling Company Inc.
   Address: 235 Kelma Street
             Wahiawa, HI 96786
   Phone: 622-2631
   Contractor's License No.: C 9637

4. PROPOSED WORK
   Drill New Well
   Deepen
   Alter
   Install New Pump
   Seal
   Replace Pump
   Redrill
   Abandon
   Modify Pump
   (Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE
   Municipal (including hotels, stores, etc.)
   Domestic (individual, noncommercial water systems)
   Industrial
   Irrigation (specify)
   Military
   Other (specify)
   Monitor
   Groundwater

6. PROPOSED AMOUNT OF WITHDRAWAL: _______ gallons per day

7. PROPOSED PUMP INFORMATION
   N/A
   Pump Type: Vertical Turbine
   Submersible
   Centrifugal
   Motor: Diesel
   Gas
   Electric
   Rated Horsepower
   Rated Pump Capacity: _______ gallons per minute (gpm)

Well Owner (print) ___________________________ Landowner (print) ___________________________
Signature ___________________________ Signature ___________________________
Date ___________________________ Date ___________________________

For Official Use Only:
Field Checked By ___________________________ Latitude ___________________________
Date ___________________________ Hydrologic Unit ___________________________
Longitude ___________________________ State Well No. ___________________________
Briefly describe the proposed work:

The boring for well installation will be drilled with a truck-mounted drill rig equipped with 4-inch hollow stem auger. The well will be installed into the boring as described below.

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Total Depth 12 ft.

Rock Packing 11 ft.

(Silica sand)

Solid Casing:

Material PVC

Length 2 ft.

Diameter 4 in.

Wall thickness Schedule 40 in.

Casing: / Perforated /w Screen

Material PVC

Length 10 ft.

Diameter 4 in.

Wall thickness Schedule 40 in.

Openings 0.09 sq. in./L.F.

Open Hole: N/A

Length

Diameter

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
Locations of wells MW-50, MW-51, and MW-52
Maui Petroleum
Kahului, Maui, Hawaii

Legend:
- Exploratory Soil Boring
- PVC Monitoring Well
- Recovery Pit
- Exploratory Test Pit (TP) (backfilled)
- Approx.
- Locations of new wells (marked with paint)

Free Product Thickness
1/10/92
Kahului (Maui Petroleum)